Please amend the Claims as follows:

1.(Original)   A method of generating a three-dimensional radar image of a body part having multiple image points comprising:

receiving radiation information obtained at an array of scan locations relative to the body part, the radiation information being obtained at multiple microwave frequencies at each of the scan locations;

receiving surface profile information relating to the body part;

receiving estimates of body part properties;

constructing each image point by: determining the minimum optical paths between each scan location and the image point based on the scan locations, surface profile information and body part properties; phase-shifting the radiation information based on the minimum optical paths to equalise the radiation information; and then summing the equalised radiation information over all scan locations and all frequencies to provide a value for the image point; and

generating the 3D radar image of the body part based on the values of each of the image points.

2.(Original) A method according to claim 1 wherein the body part properties comprise: estimates of the thickness and dielectric constant of dielectric interfaces of the body part between the scan locations and the image point; and estimates of the dielectric constant of the body part in the vicinity of the image point.

3.(Currently amended)   A method according to claim 1 ~~or claim 2~~ wherein the body

part properties comprise: estimates of the thickness and dielectric constant of the skin dielectric interface; and the dielectric constant of the body part in the vicinity of the image point.

4.(Original)   A method according to claim 3 wherein the body part is a human breast and the body part properties comprise: estimates of the thickness and dielectric constant of the skin dielectric interface of the breast; and the dielectric constant of the breast tissue.

5.(Currently amended)   A method according to ~~any one of the preceding claims~~ claim 1 wherein determining the minimum optical paths between each scan location and the image point being constructed comprises: mapping the valid optical paths between each scan location and the image point using Snell's Law of Refraction and selecting the minimum optical path from the valid optical paths.

6. (Currently amended)   A method according to ~~any one of the preceding claims~~ claim 1 wherein the values of the image points are radar intensity values.

7. (Currently amended)   A method according to ~~any one of the preceding claims~~ claim 1 further comprising displaying the three-dimensional radar image of the body part.

8. (Currently amended)   A method according to ~~any one of the preceding claims~~ claim 1 wherein the radiation information is obtained at each scan location at multiple discrete frequencies of at least 10GHz.

9.(Original) A method according to claim 8 wherein the radiation information is obtained at multiple discrete frequencies in the frequency range of approximately 10GHz-18GHz.

10. (Currently amended)   A method according to ~~any one of the preceding claims~~ claim 8 wherein the radiation information is obtained at at least 10 discrete frequencies.

11. (Currently amended)   A method according to ~~any one of the preceding claims~~ claim 8 wherein the radiation information is obtained at at least 100 scan locations relative to the body part.

12. (Original) A system for generating a three-dimensional radar image of a body part having multiple image points comprising:

an input for receiving input data comprising: radiation information obtained at an array of scan locations relative to the body part, the radiation information being obtained at multiple microwave frequencies at each of the scan locations; surface profile information relating to the body part; and estimates of body part properties;

a processor arranged to process the input data to construct each image point by: determining the minimum optical paths between each scan location and the image point based on the scan locations, surface profile information and body part properties; phase-shifting the radiation information based on the minimum optical paths to equalise the radiation information; and then summing the equalised radiation information over all scan locations and all frequencies to provide a value for the image point; and

an output for sending output data relating to the image point values for the generation of the 3D radar image of the body part.

13. (Original) A system according to claim 12 wherein the body part properties comprise: estimates of the thickness and dielectric constant of dielectric interfaces of the body part between the scan locations and the image point; and estimates of the dielectric constant of the body part in the vicinity of the image point.

14.(Currently amended)   A system according to claim 12 ~~or claim 13~~ wherein the body part properties comprise: estimates of the thickness and dielectric constant of the skin dielectric interface; and the dielectric constant of the body part in the vicinity of the image point.

15.(Original) A system according to claim 14 wherein the body part is a human breast and the body part properties comprise: estimates of the thickness and dielectric constant of the skin dielectric interface of the breast; and the dielectric constant of the breast tissue.

16.(Currently amended)   A system according to ~~any one of claims 12-15~~ claim 12 wherein the processor is arranged to determine the minimum optical paths between each scan location and the image point being constructed by mapping the valid optical paths between each scan location and the image point using Snell's Law of Refraction and selecting the minimum optical path from the valid optical paths.

17.(Currently amended)   A system according to ~~any one of claims 12-16~~ claim 12 wherein the values of the image points are radar intensity values.

18.(Currently amended)   A system according to ~~any one of claims 12-17~~ claim 12 further comprising an output display for receiving the output data and displaying the three-dimensional radar image of the body part.

19.(Currently amended)   A system according to ~~any one of claims 12-18~~ claim 12 wherein the radiation information is obtained at each scan location at multiple discrete frequencies of at least 10GHz.

20.(Original) A system according to claim 19 wherein the radiation information is obtained at multiple discrete frequencies in the frequency range of approximately 10GHz-18GHz.

21.(Currently amended)   A system according to ~~any one of claims 12-20~~ claim 19 wherein the radiation information is obtained at at least 10 discrete frequencies.

22.(Currently amended)   A system according to ~~any one of claims 12-21~~ claim 19 wherein the radiation information is obtained at at least 100 scan locations relative to the body part.

23.(Original)   A computer program for generating a three-dimensional radar image of a body part having multiple image points, the program being arranged to:
receive input data comprising: radiation information obtained at an array of scan locations relative to the body part, the radiation information being obtained at multiple microwave frequencies at each of the scan locations; surface profile information relating to the body part; and estimates of body part properties;

process the input data to construct each image point by: determining the minimum optical paths between each scan location and the image point based on the scan locations, surface profile information and body part properties; phase-shifting the radiation information based on the minimum optical paths to equalise the radiation information; and then summing the equalised radiation information over all scan locations and all frequencies to provide a value for the image point; and

output data relating to the image point values for the generation of the 3D radar image of the body part.

24.(Original) A computer program according to claim 23 wherein the body part properties comprise: estimates of the thickness and dielectric constant of dielectric interfaces of the body part between the scan locations and the image point; and estimates of the dielectric constant of the body part in the vicinity of the image point.

25.(Currently amended) A computer program according to claim 23 ~~or claim 24~~ wherein the body part properties comprise: estimates of the thickness and dielectric constant of the skin dielectric interface; and the dielectric constant of the body part in the vicinity of the image point.

26.(Original) A computer program according to claim 25 wherein the body part is a human breast and the body part properties comprise: estimates of the thickness and dielectric constant of the skin dielectric interface of the breast; and the dielectric constant of the breast tissue.

27.(Currently amended) A computer program according to ~~any one of claims 23-26~~ claim 23 wherein the computer program is arranged to determine the minimum optical paths between each scan location and the image point being constructed by mapping the valid optical paths between each scan location and the image point using Snell's Law of Refraction and selecting the minimum optical path from the valid optical paths.

28.(Currently amended) A computer program according to ~~any one of claims 23-27~~ claim 23 wherein the values of the image points are radar intensity values.

29.(Currently amended) A computer program according to ~~any one of claims 23-28~~

claim 23   wherein the computer program outputs data to an output display for displaying the three-dimensional radar image of the body part.

30.(Currently amended)   A computer program according to ~~any one of claims 23-29~~ claim 23   wherein the radiation information is obtained at each scan location at multiple discrete frequencies of at least 10GHz.

31.(Original) A computer program according to claim 30 wherein the radiation information is obtained at multiple discrete frequencies in the frequency range of approximately 10GHz-18GHz.

32.(Currently amended)   A computer program according to ~~any one of claims 23-31~~ claim 30   wherein the radiation information is obtained at at least 10 discrete frequencies.

33.(Currently amended)   A computer program according to ~~any one of claims 23-32~~ claim 30 wherein the radiation information is obtained at at least 100 scan locations relative to the body part.